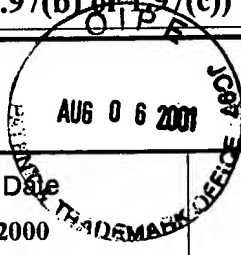


**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT**  
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.  
13392

In Re Application Of: **Koichi TAMURA**



Serial No.  
09/510,861

Filing Date  
2/23/2000

Examiner  
Unassigned

Group Art Unit  
2734

Title: **DEMODULATION AND MODULATION CIRCUIT AND DEMODULATION  
AND MODULATION METHOD**

**RECEIVED**  
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Address to:  
Assistant Commissioner for Patents  
Washington, D.C. 20231

**37 CFR 1.97(b)**

1. ☒ The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application; within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or before the mailing date of a first Office Action on the merits, whichever event occurs last.

**37 CFR 1.97(c)**

2. ☐ The Information Disclosure Statement submitted herewith is being filed after three months of the filing of a national application, or the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or after the mailing date of a first Office Action on the merits, whichever occurred last but before the mailing date of either:
1. a Final Action under 37 CFR 1.113, or
  2. a Notice of Allowance under 37 CFR 1.311,
- whichever occurs first.

Also submitted herewith is:

- ☐ a certification as specified in 37 CFR 1.97(e);

**OR**

- ☐ the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under 37 CFR 1.97(c).

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT**  
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.  
13392

In Re Application Of: **Koichi TAMURA**

Serial No.  
09/510,861

Filing Date  
2/23/2000

Examiner  
Unassigned

Group Art Unit  
2734

Title: **DEMODULATION AND MODULATION CIRCUIT AND DEMODULATION  
AND MODULATION METHOD**

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Technology Center 2600

**Payment of Fee**

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- ☐ A check in the amount of \_\_\_\_\_ is attached.
- ☒ The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 19-1013/SSMP as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of \_\_\_\_\_
- ☒ Credit any overpayment.
- ☒ Charge any additional fee required.

**Certificate of Transmission by Facsimile\***

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. \_\_\_\_\_) on

(Date)

Signature

Typed or Printed Name of Person Signing Certificate

**Certificate of Mailing by First Class Mail**

I certify that this document and fee is being deposited on 8/2/01 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

*Janet Grossman*  
Signature of Person Mailing Correspondence

Janet Grossman

Typed or Printed Name of Person Mailing Correspondence

\*This certificate may only be used if paying by deposit account.

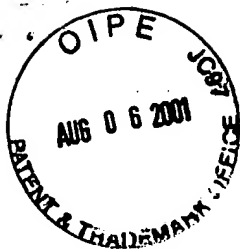
Dated: August 2, 2001

*Signature*

Paul J. Esatto, Jr., Reg. No. 30,749  
SCULLY, SCOTT, MURPHY & PRESSER  
400 Garden City Plaza  
Garden City, NY 11530  
(516) 742-4343

PJE:ae

CC:



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

<b>Applicant:</b>	<b>Koichi TAMURA</b>	<b>Docket:</b>	<b>13392</b>
<b>Serial No.</b>	<b>09/510,861</b>	<b>Examiner:</b>	<b>Unassigned</b>
<b>Filed:</b>	<b>February 23, 2000</b>	<b>Group Art Unit:</b>	<b>2734</b>
<b>For:</b>	<b>DEMODULATION AND MODULATION CIRCUIT AND DEMODULATION AND MODULATION OF THE SAME</b>	<b>Dated:</b>	<b>August 2, 2001</b>

Assistant Commissioner for Patents  
Washington, D.C. 20231

**RECEIVED**  
**AUG 08 2001**  
Technology Center 2600

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R. §§1.97 and 1.98, it is requested that the following references, which are also listed on the attached Form PTO-1449, be made of record in the above-identified case.


1. UK Patent Application GB2335828A published September 29, 1999;
2. UK Patent Application GB2319703A published May 27, 1998;
3. UK Patent Application GB2298341A published August 28, 1996;

---

**CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8(a)**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231 on August 2, 2001.

Dated: August 2, 2001

  
Janet Grossman

4. UK Patent Application GB2266645A published November 3, 1993;
5. PCT International Application WO 00/11814 A1 published March 2, 2000;
6. PCT International Application WO 96/16492 A1 published May 30, 1996;
7. U.S. Patent 5,414,728 dated May 9, 1995.

The references were cited in a Search Report received from the UK Patent Office, dated May 2, 2001. Applicant is submitting copies of the above-cited references, together with a copy of the Search Report. The relevance of the above-identified references has been described in the Search Report.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(b), no statement or fee is required.

Respectfully submitted,



Paul J. Esatto, Jr.  
Registration No. 30,749

Scully, Scott, Murphy & Presser  
400 Garden City Plaza  
Garden City, New York 11530  
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Form PTO-1449 (REV. 7-80)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Atty. Docket No.  13392		Serial No. 09/510,861	
<b>LIST OF PRIOR ART CITED BY APPLICANT</b> (Use several sheets if necessary)				Applicant Koichi Tamura			
Filing Date: February 23, 2000				Group Unassigned			

OIPE  
AUG 06 2001  
PATENT & TRADEMARK OFFICE

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (if appropriate)	
CF	5,414,728	5/9/95	Zehavi	375	142		

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AUG 08 2001  
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
CF	GB2335828A	9/29/99	UK	—	—		
CF	GB2319703A	5/27/98	UK	—	—		
CF	GB2298341A	8/28/96	UK	—	—		
CF	GB2266645A	11/3/93	UK	—	—		
CF	WO 00/11814A1	3/2/00	PCT	—	—		
CF	WO 96/16492A1	5/30/96	PCT	—	—		

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)	

EXAMINER <i>Cheryl M. I.</i>	DATE CONSIDERED <i>11/5/03</i>
------------------------------	--------------------------------

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



NEC Corporation  
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WC1X 8PL

**The Patent Office**  
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Newport  
South Wales  
NP10 8QQ

**Examiner:** 01633 814390  
**E-mail:** [matthew.nelson@patent.gov.uk](mailto:matthew.nelson@patent.gov.uk)  
**Switchboard:** 01633 814000  
**Fax:** 01633 814444

**Your Reference:** RCA/41609B  
**Application No:** GB 0108369.0

2 May 2001

Dear Sirs

**Patents Act 1977:**  
**Combined Search and Examination Report under Sections 17 and 18(3)**

**Latest date for reply:**

2 November 2001
-----------------

I enclose two copies of my search and examination report and three copies of the citations.

By the above date you should either file amendments to meet the objections in the report or make observations on them. If you do not, the application may be refused.

### **Publication**

I estimate that, provided you have met all formal requirements, preparations for publication of your application will be completed soon after **5 June 2001**. You will then receive a letter informing you of completion and telling you the publication number and date of publication. However, preparations for publication cannot commence until the added matter issue is resolved (see paragraphs 1-3 of the examination report), and so this may delay publication of your application.

### **Amendment/withdrawal**

If you wish to file amended claims for inclusion with the published application, or to withdraw the application to prevent publication, you must do so before the preparations for publication are completed. **No reminder will be issued.** If you write to the Office less

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<sup>†</sup>Use of E-mail: Please note that e-mail should be used for correspondence only.



INVESTOR IN PEOPLE

Application No: GB 0108369.0

Page 2

2 May 2001

than 3 weeks before the above completion date, please mark your letter prominently:  
**"URGENT - PUBLICATION IMMINENT"**.

Yours faithfully

*M. Nelson.*

Matthew Nelson  
Examiner



INVESTOR IN PEOPLE

Application No: GB 0108369.0  
 Claims searched: 1-8

Examiner: Matthew Nelson  
 Date of search: 1 May 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): H4P (PAL, PAQ, PSB)

Int Cl (Ed.7): H04B 1/76; H04L 23/02, 27/20, 27/34

Other: Online: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X, P	GB 2335828 A ✓ (INT. MOBILE SATELLITE ORG.) See the figures and p. 10, lines 4-13.	1,3,4,6-8
X	GB 2319703 A ✓ (GPT LTD) See e.g. p. 2, lines 3-13 and p. 7, lines 3-15.	1-6
X	GB 2298341 A ✓ (ROKE MANOR) See e.g. claims 1-4.	1,3,4,6-8
X	GB 2266645 A ✓ (MOTOROLA) See the figures and claim 1.	1,3,4,6-8
X, E	WO 00/11814 A1 ✓ (FRANCE TELECOM.) See the abstract.	1-6
X	WO 96/16492 A1 ✓ (AT & T) See p. 8, line 20 - p. 10, line 24 and figures 3 and 4.	1,3,4,6-8
A	US 5414728 ✓ (ZEHAVI) See col. 5, lines 11-34 and col. 7, lines 48-64.	

X Document indicating lack of novelty or inventive step  
 Y Document indicating lack of inventive step if combined with one or more other documents of same category.  
 & Member of the same patent family

A Document indicating technological background and/or state of the art.  
 P Document published on or after the declared priority date but before the filing date of this invention.  
 E Patent document published on or after, but with priority date earlier than, the filing date of this application.





INVESTOR IN PEOPLE

Your ref: RCA/41609B  
Application No: GB 0108369.0  
Applicant: NEC Corporation

Examiner: Matthew Nelson  
Tel: 01633 814390  
Date of report: 2 May 2001

Latest date for reply: 2 November 2001

Page 1/2

## Patents Act 1977

### Combined Search and Examination Report under Sections 17 & 18(3)

#### Added subject matter

1. This application, which was filed on 3 April 2001, cannot be treated as having been filed on the same date of filing as your earlier application number GB 0004418.0 because it discloses subject matter not disclosed in the earlier application. The added subject matter in question arises from the combinations of claims 1 and 2, and claims 4 and 5, in which known signals are inserted by time multiplexing and also assigned to one of two digital signals with phases mutually shifted by 90 degrees. In the parent application as filed, the techniques of time multiplexing and assigning known signals to one of the two phase shifted signals are described (and claimed) as distinct, alternative embodiments. I can find nothing in the parent application that suggests combining the two techniques, and thus claims 1, 2 and claims 4, 5 extend the disclosure beyond that of the parent application.

2. If you want this application to proceed with the filing date of the earlier application, you should amend it to remove the added subject matter.

3. If, on the other hand, you want to keep the added subject matter in this application, you should file a request on Patents Form 11/77 for the claim to an earlier filing date made on Patents Form 1/77 to be cancelled. This application would then proceed with its actual date of filing. However, I should warn you that, if you do this, your earlier application may be cited against this application to show that the invention you want to protect is not new or does not involve an inventive step. Furthermore, you will be unable to rely on your claim to priority.

#### Novelty

4. The invention as defined in claims 1-8 is not new because it has already been disclosed in the following documents:

GB 2335828 A (INT. MOBILE SATELLITE ORG.) See the figures and p.10, lines 4-13.

GB 2319703 A (GPT LTD) See e.g. p. 2, lines 3-13 and p. 7, lines 3-15.

GB 2298341 A (ROKE MANOR) See e.g. claims 1-4.

GB 2266645 A (MOTOROLA) See the figures and claim 1.

\* WO 00/11814 A1 (FRANCE TELECOM.) See the abstract

WO 96/16492 A1 (AT & T) See p. 8, line 20 - p. 10, line 24 and figs 3 & 4.

5. GB '828, GB '341, GB '645 and WO '492 disclose orthogonal modulators for



INVESTOR IN PEOPLE

Your ref: RCA/41609B  
Application No: GB 0108369.0

Date of Report: 2 May 2001  
Page 2/2

[ Examination Report contd. ]

interleaving pilot signals and data signals in a time multiplexed manner. These documents meet the terms of claims 1, 3, 4 and 6-8, and are examples only of this well established technique.

6. WO '814 distributes reference symbols to either the I component or the Q component, with data symbols being distributed primarily to the other component. In figures 1 and 2 data symbols are also interspersed between reference symbols due to spare capacity, and this arrangement satisfies the present form of claims 1-6. (However, following the pattern of figures 1 and 2 by further increasing the number of reference symbols would eventually result in I and Q components that carry reference or data symbols only, as per figure 4 of the originally filed parent application.) GB '703 uses quadrature portions for pilot signals and also seems to meet claims 1-6.

7. No amendment of your claims will be needed in respect of the document marked \* if you can show that the priority date of your invention is not later than the priority date of the relevant disclosure in that document.

### Clarity

8. It is not clear how the known signals can be time-multiplexed with other signals as required by claims 1 and 4 if the inserting means of claims 2 and 5 exclusively assigns the known signals to one of two digital signals mutually shifted in phase by 90 degrees.

### Conflict of claims (Section 18(5))

9. When amending the claims, care needs to be exercised to ensure that they do not conflict with the claims of the divisional application GB 0104978.2 or the claims of the parent application GB 0004418.0. I note that claims 8, 9, 17 and 18 of GB '978.2 and GB '418.0 define the modulation techniques of the present application in combination with the respective demodulators shown in figures 6-8 of the present application.